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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,840	12/12/2005	Joerg Moisel	3926.188	5023
30448 7590 04/10/2007 AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER BENNETT, ZAHRA I	
			ART UNIT 2875	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/10/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/539,840

Applicant(s)

MOISEL, JOERG

Examiner

Zahra Bennett

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>13/072006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the housing (Claim 1), the hard wiring or hard circuit (Claim 22), the LED-modules (Claim 30), the common carrier (Claim 32), and the common supplemental optical element (Claim 37) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 19 recites the limitation "the lens" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 33 is objected to because of the following informalities: Claim 33 appears to be incomplete because of missing punctuation at the end of the claim. The word "corresponding" should be changed to "corresponds" if the claim is complete. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18, 31 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 states an overall array has an asymmetric design arrived at by starting with an overall symmetric design and providing therein at least one area with non-functional or missing LEDs. It is unclear how the multiple LEDs organized into an array create an array when there are nonfunctional or missing LEDs.

Claims 31 and 35 have LED modules that releasably connected with each other, however, it is unclear how and where the LEDs modules are released.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-30, 32-34, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begemann et al. (WO 2001/01037) in view of Chen et al. (US Patent 6,520,669).

With respect to claim 18, as best understood, Begemann teaches a vehicle headlight (Figure 2) with multiple LEDs (11, 12, 13, 14) provided on a carrier (4) and organized into array,

at least one optical element functioning as common collection lens (Figure 1A: 2), and a housing (2), wherein this overall has an asymmetric design arrived at by starting with an overall symmetric design and providing therein at least one area with non-functional or missing LEDs (Page 7, lines 3-8),

wherein the LEDs are LED-chips (Page 3, lines 3-4), and

wherein the array and optical element are assembled into a LED-module (Figure 2).

Begemann teaches a conventional headlight but does not specifically teach a lens. Chen teaches a headlight with a common collection lens (Figure 8: 92). It would

Art Unit: 2875

have been obvious to one of ordinary skill in the art include a lens on the device of Begemann for the benefit of protecting the LEDs, as taught by Chen.

With respect to claim 19, Begemann does not teach a lens. Chen teaches that LED-chips (Figure 8: 84') are disposed in the region of the focal point plane (not labeled) of the lens (92). It would have been obvious to one of ordinary skill in the art include a lens on the device of Begemann for the benefit of protecting the LEDs, as taught by Chen.

With respect to claim 20, Begemann teaches that the vertical angle of beam spread of the headlight is less than 5 degrees and the horizontal angle of the beam spread of the vehicle headlight lies in the range less than 20 degrees (Page 3, lines 23-29).

With respect to claim 21, Begemann does not teach an optically transparent material is cast into the LED-module. Chen teaches an optically transparent material is cast into the LED-module (Figure 8: 92). It would have been obvious to one of ordinary skill in the art include a lens on the device of Begemann for the benefit of protecting the LEDs, as taught by Chen.

With respect to claim 22, Begemann teaches that the LED-chips are hard wired together and this hard wiring or hard circuit is bonded to the carrier (Page 6, lines 20-24).

With respect to claim 23, Begemann teaches the LED-chips are arranged in the LED-module in a hexagonal, quadratic or square pattern (Figure 2).

With respect to claim 24, Begemann teaches that the asymmetric array exhibits a design which corresponds to an asymmetric distribution of the vehicle headlight beam (Figures 2 and 3, see Page 7, lines 23-30).

With respect to claim 25, Begemann teaches that the LED-chip of the LED-module emits exclusively IR radiation, or IR radiation with visible light, or exclusively visible light (Page 2, lines 10-14).

With respect to claims 26-28, Begemann teaches LED-chips emitting visible light. Begemann does not teach infrared light. Chen teaches a part of the LED-chip is provided with only IR emitting (Figure 12: 130) and another part with visible light emitting LEDs (132), where the IR and visible LEDs are arranged alternating in the asymmetric ray (Column 7, lines 62-67 to Column 8, lines 1-6). Chen also teaches a part of the LED-chip emits only IR radiation and another part only emits visible light, and the one part is separated from the other part in asymmetric array (Figure 12, see

Art Unit: 2875

Column 7, lines 62-67 to Column 8, lines 1-6). It would have been obvious to one of ordinary skill at the time of the invention to emit infrared light on the device of Begemann for the benefit of emitting light during low visibility conditions, as taught by Chen.

With respect to claim 29, Begemann teaches multiple LED-modules (Figure 1B: 2,3), which are arranged in one plane.

With respect to claims 30 and 34, Begemann teaches the LED-modules (Figure 1B: 2, 3) contact each other (using 1).

With respect to claims 32 and 36, Begemann teaches that the LED-modules are provided upon a common carrier (Figure 1B: 1) which is shaped or has circuitry which is vehicle-specific.

With respect to claim 33, Begemann teaches the multiple LED-modules are provided, which corresponds to the curvature (Page 6, lines 8-10) of a curved vehicle surface.

With respect to claims 37, as best understood, Begemann does not teach a common supplemental optical element. Chen teaches that the LED-modules (Figure 9: 94) are associated with a common supplemental optical element (82), which cooperates

Art Unit: 2875

collectively with the lenses of each module (100). It would have been obvious to one of ordinary skill in the art include a common supplemental optical element on the device of Begemann for the benefit of protecting the LEDs, as taught by Chen.

With respect to claim 38, Begemann teaches diodes but does not teach laser diodes. Chen teaches LED-chips that are laser diodes or laser diodes with vertical resonators (Column 4, lines 56-60). It would have been obvious to one of ordinary skill at the time of the invention to include laser diodes on the device of Begemann for the benefit of emitting solid-state light, as taught by Chen.

Claims 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begemann and Chen as applied to claims 18, 29, 30, 33, and 34 above, and further in view of Moriyama et al. (US Publication 2004/0252501).

With respect to claims 31 and 35, as best understood, Begemann and Chen teach LED-modules but do not teach the LED-modules are releasably connected with each other. Moriyama et al. teaches LED-modules (Figure 22: 152) are releasably connected with each other. It would have been obvious to one of ordinary skill at the time of the invention to have the LED-modules releasably connected with each other for the benefit of replacing malfunctioning LEDs, as taught by Moriyama.

Conclusion

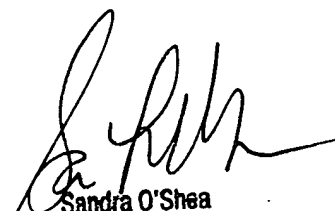
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pederson (US Publication 2002/0093820) and Weidel (US Patent 7,150,552) teach LED-modules with visible and infrared lighting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zahra Bennett whose telephone number is 571-272-2267. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZB


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800